SGCN and Habitat Stressors

Level 1 Threat Pollution

Level 2 Threat: Agricultural and Forestry Effluents

Description: Water-borne pollutants from agricultural, silivicultural, and aquaculture systems that include nutrients, toxic chemicals and/or sediments including the effects of these pollutants on the site where they are applied

Species Associated With This Stressor: **Total SGCN: 1: 14 2: 53 3:**

Class	*Actinopterygii* (Ray-finned Fishes)	SGCN Category

Species: ***Alosa pseudoharengus*** (Alewife) **2**

Severity: Moderate Severity **Actionability:** Moderately actionable

Notes: The specific causes of impact are increased non-point source pollution (heavy metals and nutrient inputs), increased turbidity, and lower dissolved oxygen.

Species: ***Alosa sapidissima*** (American Shad) **1**

Severity: Moderate Severity **Actionability:** Moderately actionable

Notes: The specific causes of impact are increased non-point source pollution (heavy metals and nutrient inputs), increased turbidity, and lower dissolved oxygen.

Species: ***Salvelinus alpinus oquassa*** (Arctic Charr) **1**

Severity: Moderate Severity **Actionability:** Moderately actionable

Notes: Potential spruce budwork mitigation could pose risks to some charr habitats. Requires cooperation with Forestry and landowners to minimize impacts to charr habitats.

Species: ***Alosa aestivalis*** (Blueback Herring) **1**

Severity: Moderate Severity **Actionability:** Moderately actionable

Notes: The specific causes of impact are increased non-point source pollution (heavy metals and nutrient inputs), increased turbidity, and lower dissolved oxygen.

Species: ***Coregonus clupeaformis*** (Lake Whitefish) **2**

Severity: Moderate Severity **Actionability:** Moderately actionable

Notes: Run-off from extensive forest spraying is a likely stressor, ex. Budworm mitigation

Species: ***Osmerus mordax*** (Rainbow Smelt) **1**

Severity: Severe **Actionability:** Actionable with difficulty

Notes: Non-point source pollution (heavy metals and nutrient inputs) has been directly related to declining smelt runs. Liklihood is high and increasing (high certainty), actionability is low because further regulation of effluents is not likely within next 10 years in Maine.

Species: ***Esox americanus americanus*** (Redfin Pickerel) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Nutrient loading from agricultural runoff severely degrades water quality, vegetation type, and dissolved oxygen level. One RPK population is known to be affected.

Species: ***Prosopium cylindraceum*** (Round Whitefish) **2**

Severity: Moderate Severity **Actionability:** Moderately actionable

Notes: Run-off from extensive forest spraying is a likely stressor, ex. Budworm mitigation

Species: ***Pseudopleuronectes americanus*** (Winter Flounder) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Although winter flounder appear to withstand changes in water quality based on lab studies, their primary spawning habitat is submerged aquatic vegetation like eelgrass that is highly sensitive to declines in water quality , especially nutrient inputs. Eelgrass die-offs in Maine in the 1970s are correlated with reductions in winter flounder populations.

Class	*Amphibia* (Amphibians)	SGCN Category

SGCN and Habitat Stressors

Level 1 Threat Pollution

Level 2 Threat: Agricultural and Forestry Effluents

Class	*Amphibia* (Amphibians)	SGCN Category

Species: ***Lithobates pipiens*** (Northern Leopard Frog) **2**

Severity: Moderate Severity **Actionability:** Moderately actionable

Notes: Aquatic larvae are sensitive to pesticides and excessive nutrients

Class	*Anthozoa* (Corals, Sea Pens, Sea Fans, Sea Anemones)	SGCN Category

Species: ***Gersemia rubiformis*** (Sea Strawberry) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Corals are sensitive to excessive nutrients, toxic chemicals (including heavy metals, pesticides and chemical therapeutants), and/or sediments. Actionability is moderate, i.e. the threat can be minimized by reducing runoff and nutrient inputs

Class	*Asteroidea* (Sea Stars)	SGCN Category

Species: ***Asterias rubens*** (Common Sea Star) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Echinoderm larvae are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments. Adults are sensitive, but comparatively to larvae, less effected.

Species: ***Crossaster papposus*** (Common Sun Star) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Echinoderm larvae are exceptionally sensitive to excessive nutrients, toxic chemicals (including heavy metals, and pesticides), and/or sediments orginating from agriculture and the aquaculture activity. Adults are sensitive, but less so. Likelihood is high and increasing (high certainty). Current spatial extent is most severe in Southern Maine, but expanding along coast along with development of the aquaculture industry , so actionability is moderate, i.e. the threat can be minimized in newly developing areas expanding into the geospatial range of this species.

Species: ***Asterias forbesi*** (Forbes's Starfish) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Echinoderm larvae are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments. Adults are sensitive, but comparatively to larvae, less effected.

Species: ***Solaster endeca*** (Purple Sunstar) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Echinoderm larvae are exceptionally sensitive to excessive nutrients, toxic chemicals (including heavy metals, and pesticides), and/or sediments orginating from agriculture and the aquaculture activity. Adults are sensitive, but less so. Likelihood is high and increasing (high certainty). Current spatial extent is most severe in Southern Maine, but expanding along coast along with development of the aquaculture industry , so actionability is moderate, i.e. the threat can be minimized in newly developing areas expanding into the geospatial range of this species.

Species: ***Stephanasterias albula*** (White Sea Star) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Echinoderm larvae are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments. Adults are sensitive, but comparatively to larvae, less effected.

Class	*Aves* (Birds)	SGCN Category

SGCN and Habitat Stressors

Level 1 Threat Pollution

Level 2 Threat: Agricultural and Forestry Effluents

Class	*Aves* (Birds)	SGCN Category
Species: ***Riparia riparia*** (Bank Swallow)		**1**
Severity: Severe	**Actionability:** Moderately actionable	
Notes: Effects of Systemic Neonoctid pesticides		
Species: ***Hirundo rustica*** (Barn Swallow)		**2**
Severity: Moderate Severity	**Actionability:** Actionable with difficulty	
Notes: Neonoctinoid pesticides		
Species: ***Chaetura pelagica*** (Chimney Swift)		**2**
Severity: Moderate Severity	**Actionability:** Moderately actionable	
Notes: Neonoctinoid pesticids		
Species: ***Antrostomus vociferus*** (Eastern Whip-poor-will)		**2**
Severity: Moderate Severity	**Actionability:** Moderately actionable	
Notes: Neonoctinoid pesticides		
Species: ***Aquila chrysaetos*** (Golden Eagle)		**2**
Severity: Moderate Severity	**Actionability:** Moderately actionable	
Notes: PCB's, DDT, DDE, and mercury exposure have contributed to population decline in northeastern U.S.		
Species: ***Progne subis*** (Purple Martin)		**2**
Severity: Moderate Severity	**Actionability:** Moderately actionable	
Notes: Neonoctinoid pesticides		
Species: ***Tachycineta bicolor*** (Tree Swallow)		**2**
Severity: Moderate Severity	**Actionability:** Moderately actionable	
Notes: Neonoctinoid pesticides		

Class	*Bivalvia* (Marine And Freshwater Molluscs)	SGCN Category
Species: ***Zirfaea crispata*** (Atlantic Great Piddock)		**2**
Severity: Severe	**Actionability:** Moderately actionable	
Notes: Loss of habitat due to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments can reduce populations size. Direct effects could include toxicicity of tributyl compounds shown in other gastropods.		
Species: ***Alasmidonta varicosa*** (Brook Floater)		**1**
Severity: Moderate Severity	**Actionability:** Moderately actionable	
Notes: Impacts to water quality from point and non-point sources; direct impacts of toxins to mussels and/or fish hosts		
Species: ***Leptodea ochracea*** (Tidewater Mucket)		**1**
Severity: Moderate Severity	**Actionability:** Moderately actionable	
Notes: Impacts to water quality from point and non-point sources; direct impacts of toxins to mussels and/or fish hosts		
Species: ***Lampsilis cariosa*** (Yellow Lampmussel)		**1**
Severity: Moderate Severity	**Actionability:** Moderately actionable	
Notes: Impacts to water quality from point and non-point sources; direct impacts of toxins to mussels and/or fish hosts		

Class	*Echinoidea* (Sea Urchins)	SGCN Category

SGCN and Habitat Stressors

Level 1 Threat Pollution

Level 2 Threat: Agricultural and Forestry Effluents

Class	*Echinoidea* (Sea Urchins)	SGCN Category

Species: ***Strongylocentrotus droebachiensis*** (Green Sea Urchin) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Echinoderm larvae are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments. Adults are sensitive, but comparatively to larvae, less effected.

Class	*Gastropoda* (Aquatic And Terrestrial Snails)	SGCN Category

Species: ***Arrhoges occidentalis*** (American Pelican Foot) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Loss of habitat due to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments orginating from aquaculture can reduce populations size. Direct effects could include toxicicity of tributyl compounds shown in other gastropods. Likelihood is high (high certainty). Current spatial extent is expanding along coast along with development of the aquaculture industry , so actionability is moderate, i.e. the threat can be minimized in newly developing areas.

Species: ***Stagnicola mighelsi*** (Bigmouth Pondsnail) **1**

Severity: Moderate Severity **Actionability:** Moderately actionable

Notes: Requires clean oligotrophic waters and agricultural and forestry runoff may be harmful

Species: ***Boreotrophon clathratus*** (Clathrate Trophon) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Loss of habitat due to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments orginating from aquaculture can reduce populations size. Direct effects could include toxicicity of tributyl compounds shown in other gastropods. Likelihood is high (high certainty). Current spatial extent is expanding along coast along with development of the aquaculture industry , so actionability is moderate, i.e. the threat can be minimized in newly developing areas.

Species: ***Colus pygmaeus*** (Colus Snail) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Loss of habitat due to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments orginating from aquaculture can reduce populations size. Direct effects could include toxicicity of tributyl compounds shown in other gastropods. Likelihood is high (high certainty). Current spatial extent is expanding along coast along with development of the aquaculture industry , so actionability is moderate, i.e. the threat can be minimized in newly developing areas.

Species: ***Boreotrophon truncatus*** (Murex) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Loss of habitat due to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments orginating from aquaculture can reduce populations size. Direct effects could include toxicicity of tributyl coumpounds shown in other gastropods. Likelihood is high (high certainty). Current spatial extent is expanding along coast along with development of the aquaculture industry , so actionability is moderate, i.e. the threat can be minimized in newly developing areas.

Species: ***Ptychatractus ligatus*** (Spindle Shell) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Loss of habitat due to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments orginating from aquaculture can reduce populations size. Direct effects could include toxicicity of tributyl compounds shown in other gastropods. Likelihood is high (high certainty). Current spatial extent is expanding along coast along with development of the aquaculture industry , so actionability is moderate, i.e. the threat can be minimized in newly developing areas.

SGCN and Habitat Stressors

Level 1 Threat Pollution

Level 2 Threat: Agricultural and Forestry Effluents

Class	*Holothuroidea* (Sea Cucumbers)	SGCN Category

Species: ***Cucumaria frondosa*** (Orange-footed Sea Cucumber) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Echinoderm larvae are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments. Adults are sensitive, but comparatively to larvae, less effected.

Species: ***Psolus fabricii*** (Psolus) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Echinoderm larvae are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments. Adults are sensitive, but comparatively to larvae, less effected.

Species: ***Psolus phantapus*** (Psolus) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Echinoderm larvae are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments. Adults are sensitive, but comparatively to larvae, less effected.

Species: ***Thyonidium drummondii*** (Sea Cucumber) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Echinoderm larvae are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments. Adults are sensitive, but comparatively to larvae, less effected.

Class	*Insecta* (Insects)	SGCN Category

Species: ***Chaetaglaea cerata*** (A Noctuid Moth) **2**

Severity: Moderate Severity **Actionability:** Highly actionable

Notes: Nontarget species impacts from aerial pesticides; especially control efforts for gypsy moth in southern ME

Species: ***Bombus pensylvanicus*** (American Bumble Bee) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Pesticides (e.g., seed/nursery stock innoculation, agricultural applications); past impacts (i.e., severe declines) actionable with difficulty, but future impacts moderately actionable (e.g., changes in pesticide type and use)

Species: ***Bombus ashtoni*** (Ashton's Cuckoo Bumble Bee) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Pesticides (e.g., seed/nursery stock innoculation, agricultural applications); past impacts (i.e., severe declines) actionable with difficulty, but future impacts moderately actionable (e.g., changes in pesticide type and use)

Species: ***Speranza exonerata*** (Barrens Itame) **2**

Severity: Moderate Severity **Actionability:** Highly actionable

Notes: Nontarget species impacts from aerial pesticides; especially control efforts for gypsy moth in southern ME

Species: ***Metarranthis apiciaria*** (Barrens Metarranthis Moth) **2**

Severity: Moderate Severity **Actionability:** Highly actionable

Notes: Nontarget species impacts from aerial pesticides; especially control efforts for gypsy moth in southern ME

SGCN and Habitat Stressors

Level 1 Threat Pollution

Level 2 Threat: Agricultural and Forestry Effluents

Class	*Insecta* (Insects)	SGCN Category

Species: ***Lycaena dorcas claytoni*** (Clayton's Copper) **2**

Severity: Moderate Severity **Actionability:** Highly actionable

Notes: Nontarget species impacts from aerial pesticides; especially control efforts for spruce budworm in northern/eastern ME

Species: ***Plebejus idas empetri*** (Crowberry Blue) **2**

Severity: Moderate Severity **Actionability:** Highly actionable

Notes: Nontarget species impacts from use of aerial pesticides -- e.g., Spruce Budworm control

Species: ***Hemileuca maia maia*** (Eastern Buckmoth) **2**

Severity: Moderate Severity **Actionability:** Highly actionable

Notes: Nontarget species impacts from aerial pesticides; especially control efforts for gypsy moth in southern ME

Species: ***Satyrium edwardsii*** (Edwards' Hairstreak) **2**

Severity: Moderate Severity **Actionability:** Highly actionable

Notes: Nontarget species impacts from aerial pesticides; especially control efforts for gypsy moth in southern ME

Species: ***Boloria frigga saga*** (Frigga Fritillary) **1**

Severity: Moderate Severity **Actionability:** Highly actionable

Notes: Pesticide spraying and potential aerial drift (e.g. Spruce Budworm control)

Species: ***Bombus insularis*** (Indiscriminate Cuckoo Bumble Bee) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Pesticides (e.g., seed/nursery stock innoculation, agricultural applications); past impacts (i.e., severe declines) actionable with difficulty, but future impacts moderately actionable (e.g., changes in pesticide type and use)

Species: ***Enallagma laterale*** (New England Bluet) **2**

Severity: Moderate Severity **Actionability:** Moderately actionable

Notes: Aquatic larvae and submerged aquatic vegetation sensitive to pesticides

Species: ***Plebejus idas*** (Northern Blue) **2**

Severity: Moderate Severity **Actionability:** Highly actionable

Notes: Nontarget species impacts from use of aerial pesticides -- e.g., Spruce Budworm control

Species: ***Zanclognatha martha*** (Pine Barrens Zanclognatha) **1**

Severity: Moderate Severity **Actionability:** Highly actionable

Notes: Nontarget species impacts from aerial pesticide spraying, epsecially gypsy moth control in southern ME

Species: ***Citheronia sepulcralis*** (Pine Devil) **2**

Severity: Moderate Severity **Actionability:** Highly actionable

Notes: Was extirpated from most of Northeast in mid 20th century primarily from DDT and Compsilura introductions; nontarget species impacts from aerial pesticides; especially control efforts for gypsy moth in southern ME;

Species: ***Lithophane lepida lepida*** (Pine Pinion) **2**

Severity: Moderate Severity **Actionability:** Highly actionable

Notes: Nontarget species impacts from aerial pesticides; especially control efforts for gypsy moth in southern ME and spruce budworm in northern/eastern ME

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Class	*Insecta* (Insects)	SGCN Category

Species: ***Psectraglaea carnosa*** (Pink Sallow) **2**

Severity: Moderate Severity **Actionability:** Highly actionable

Notes: Nontarget species impacts from aerial pesticides; especially control efforts for gypsy moth in southern ME

Species: ***Boloria chariclea grandis*** (Purple Lesser Fritillary) **2**

Severity: Moderate Severity **Actionability:** Highly actionable

Notes: Nontarget species impacts from use of aerial pesticides -- e.g., Spruce Budworm control

Species: ***Gomphus quadricolor*** (Rapids Clubtail) **2**

Severity: Moderate Severity **Actionability:** Moderately actionable

Notes: Aquatic larvae sensitive to pesticides

Species: ***Bombus affinis*** (Rusty-patched Bumble Bee) **1**

Severity: Severe **Actionability:** Moderately actionable

Notes: Pesticides (e.g., seed/nursery stock innoculation, agricultural applications); past impacts (i.e., severe declines) actionable with difficulty, but future impacts moderately actionable (e.g., changes in pesticide type and use)

Species: ***Enallagma pictum*** (Scarlet Bluet) **2**

Severity: Moderate Severity **Actionability:** Moderately actionable

Notes: Aquatic larvae and submerged aquatic vegetation sensitive to pesticides

Species: ***Erynnis brizo*** (Sleepy Duskywing) **2**

Severity: Moderate Severity **Actionability:** Highly actionable

Notes: Nontarget species impacts from aerial pesticides; especially control efforts for gypsy moth in southern ME

Species: ***Lycia rachelae*** (Twilight Moth) **2**

Severity: Moderate Severity **Actionability:** Highly actionable

Notes: Nontarget species impacts from aerial pesticides; especially control efforts for gypsy moth in southern ME

Class	*Malacostraca* (Crustaceans)	SGCN Category

Species: ***Pandalus borealis*** (Northern Shrimp) **1**

Severity: Severe **Actionability:** Moderately actionable

Notes: Crustacean larvae and adults are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments.

Species: ***Lebbeus polaris*** (Polar Lebbeid Shrimp) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Crustacean larvae and adults are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments.

Species: ***Lebbeus groenlandicus*** (Spiny Lebbeid Shrimp) **2**

Severity: Severe **Actionability:** Moderately actionable

Notes: Crustacean larvae and adults are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments.

Class	*Merostomata* (Horseshoe Crabs And Sea Scorpions)	SGCN Category

SGCN and Habitat Stressors

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Class	*Merostomata* (Horseshoe Crabs And Sea Scorpions)	SGCN Category
Species: ***Limulus polyphemus*** (Horseshoe Crab)		1

Severity: Severe **Actionability:** Moderately actionable

Notes: Crustacean larvae and adults are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments.

Class	*Ophiuroidea* (Brittle Stars)	SGCN Category
Species: ***Gorgonocephalus arcticus*** (Northern Basket Starfish)		2

Severity: Severe **Actionability:** Moderately actionable

Notes: Echinoderm larvae are exceptionally sensitive to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments. Adults are sensitive, but comparatively to larvae, less effected.

Class	*Rhynchonellata* (Brachiopods)	SGCN Category
Species: ***Terebratulina septentrionalis*** (Lamp Shell)		2

Severity: Severe **Actionability:** Moderately actionable

Notes: Loss of habitat due to excessive nutrients, toxic chemicals (including pesticides and chemical therapeutants), and/or sediments orginating from aquaculture can reduce populations size. Direct effects could include toxicicity of tributyl compounds shown in other marine invertebrates. Likelihood is high (high certainty). Current spatial extent is expanding along coast along with development of the aquaculture industry , so actionability is moderate, i.e. the threat can be minimized in newly developing areas.

Habitats Associated With This Stressor:

Macrogroup Emergent Marsh

Habitat System Name: Laurentian-Acadian Freshwater Marsh

Notes: Some marshes lack buffers from adjacent farmlands

Macrogroup Intertidal Bedrock

Habitat System Name: High Intertidal

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Habitat System Name: Low-Intertidal

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Habitat System Name: Mid-Intertidal

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Macrogroup Intertidal Gravel Shore

SGCN and Habitat Stressors

Level 1 Threat Pollution

Level 2 Threat: Agricultural and Forestry Effluents

Macrogroup Intertidal Gravel Shore

Habitat System Name: High Intertidal

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Habitat System Name: Lower Intertidal

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Habitat System Name: Mid-Intertidal

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Macrogroup Intertidal Mollusc Reefs

Habitat System Name: Gastropod Reef

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Habitat System Name: Mussel Reef

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Habitat System Name: Oyster Reef

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Macrogroup Intertidal Mudflat

Habitat System Name: Freshwater Tidal Marsh

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Habitat System Name: Non-Vascular Mudflat

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

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Macrogroup Intertidal Mudflat

Habitat System Name: Submerged Aquatic Vegetation

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Macrogroup Intertidal Sandy Shore

Habitat System Name: Sand Beach

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Habitat System Name: Sand Flat

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Habitat System Name: Submerged Aquatic Vegetation

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Macrogroup Intertidal Tidal Marsh (peat-forming)

Habitat System Name: Acadian Coastal Salt Marsh

Notes: Eutrophication is a driver for salt marsh loss Deegan et al. 2012. Sedimentation actually led to historic expansion of tidal marshes.

Habitat System Name: Coastal Plain Tidal Marsh

Notes: Eutrophication is a driver for salt marsh loss Deegan et al. 2012. Sedimentation actually led to historic expansion of tidal marshes.

Macrogroup Intertidal Water Column

Habitat System Name: Confined Channel

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Habitat System Name: Embayment

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Habitat System Name: Exposed Shore

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Macrogroup Northeastern Floodplain Forest

SGCN and Habitat Stressors

Level 1 Threat Pollution

Level 2 Threat: Agricultural and Forestry Effluents

Macrogroup Northeastern Floodplain Forest

Habitat System Name: Laurentian-Acadian Floodplain Systems

Notes: Many floodplain forest occurrences are downslope and/or adjacent to agricultural activity

Macrogroup Rivers and Streams

Habitat System Name: Ephemeral

Notes: Lack of adequate riparian buffers in farmlands

Habitat System Name: Headwaters and Creeks

Habitat System Name: Large River

Habitat System Name: Medium River

Habitat System Name: Small River

Macrogroup Subtidal Bedrock Bottom

Habitat System Name: Bedrock

Notes: Though this threat has been drastically reduced with the implementation of best management pratices, in coastal watersheds, excess runoff of nutrients, fertilizer, sedimentation, and pesticides can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (pesticides).

Habitat System Name: Erect Epifauna

Notes: Though this threat has been drastically reduced with the implementation of best management pratices, in coastal watersheds, excess runoff of nutrients, fertilizer, sedimentation, and pesticides can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (pesticides).

Habitat System Name: Kelp Bed

Notes: Though this threat has been drastically reduced with the implementation of best management pratices, in coastal watersheds, excess runoff of nutrients, fertilizer, sedimentation, and pesticides can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (pesticides).

Macrogroup Subtidal Coarse Gravel Bottom

Habitat System Name: Coarse Gravel

Notes: Though this threat has been drastically reduced with the implementation of best management pratices, in coastal watersheds, excess runoff of nutrients, fertilizer, sedimentation, and pesticides can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (pesticides).

Habitat System Name: Erect Epifauna

Notes: Though this threat has been drastically reduced with the implementation of best management pratices, in coastal watersheds, excess runoff of nutrients, fertilizer, sedimentation, and pesticides can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (pesticides).

Habitat System Name: Kelp Bed

Notes: Though this threat has been drastically reduced with the implementation of best management pratices, in coastal watersheds, excess runoff of nutrients, fertilizer, sedimentation, and pesticides can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (pesticides).

Macrogroup Subtidal Mollusc Reefs

Habitat System Name: Gastropod Reef

Notes: Though this threat has been drastically reduced with the implementation of best management pratices, in coastal watersheds, excess runoff of nutrients, fertilizer, sedimentation, and pesticides can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (pesticides).

SGCN and Habitat Stressors

Level 1 Threat Pollution

Level 2 Threat: Agricultural and Forestry Effluents

Macrogroup Subtidal Mollusc Reefs

Habitat System Name: Mussel Reef

Notes: Though this threat has been drastically reduced with the implementation of best management pratices, in coastal watersheds, excess runoff of nutrients, fertilizer, sedimentation, and pesticides can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (pesticides).

Habitat System Name: Oyster Reef

Notes: Though this threat has been drastically reduced with the implementation of best management pratices, in coastal watersheds, excess runoff of nutrients, fertilizer, sedimentation, and pesticides can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (pesticides).

Macrogroup Subtidal Mud Bottom

Habitat System Name: Submerged Aquatic Vegetation

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Habitat System Name: Unvegetated

Notes: Though this threat can be reduced with the implementation of best management pratices, in coastal watersheds, runoff can lead to non-point source pollution of nutrients, fertilizer, sediments, pesticides, vehicle contaminants, etc., which can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (toxic contaminants).

Macrogroup Subtidal Pelagic (Water Column)

Habitat System Name: Confined Channel

Notes: Though this threat has been drastically reduced with the implementation of best management pratices, in coastal watersheds, excess runoff of nutrients, fertilizer, sedimentation, and pesticides can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (pesticides).

Habitat System Name: Nearshore

Notes: Though this threat has been drastically reduced with the implementation of best management pratices, in coastal watersheds, excess runoff of nutrients, fertilizer, sedimentation, and pesticides can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (pesticides).

Habitat System Name: Offshore

Notes: Though this threat has been drastically reduced with the implementation of best management pratices, in coastal watersheds, excess runoff of nutrients, fertilizer, sedimentation, and pesticides can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (pesticides).

Habitat System Name: Upwelling Zones

Notes: Though this threat has been drastically reduced with the implementation of best management pratices, in coastal watersheds, excess runoff of nutrients, fertilizer, sedimentation, and pesticides can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (pesticides).

Macrogroup Subtidal Sand Bottom

Habitat System Name: Submerged Aquatic Vegetation

Notes: Though this threat has been drastically reduced with the implementation of best management pratices, in coastal watersheds, excess runoff of nutrients, fertilizer, sedimentation, and pesticides can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (pesticides).

Habitat System Name: Unvegetated

Notes: Though this threat has been drastically reduced with the implementation of best management pratices, in coastal watersheds, excess runoff of nutrients, fertilizer, sedimentation, and pesticides can lead to poor water quality in tidal areas and lead to excessive algal growth (from nutrients) and reduced fitness and/or mortality (pesticides).

SGCN and Habitat Stressors

Level 1 Threat Pollution

Level 2 Threat: Agricultural and Forestry Effluents

Macrogroup Wet Meadow-Shrub Marsh

Habitat System Name: Introduced Wetland and Riparian Vegetation

Notes: Runoff from poorly buffered farmlands may add excess nutrients, sediment, heavy metals, etc.

Habitat System Name: Laurentian-Acadian Wet Meadow-Shrub Swamp

Notes: Runoff from poorly buffered farmlands may add excess nutrients, sediment, heavy metals, etc.

SGCN and Habitat Stressors

Level 1 Threat Pollution

Level 2 Threat: Agricultural and Forestry Effluents

The Wildlife Action Plan was developed through a lengthy participatory process with state agencies, targeted conservation partners, and the general public. The Plan is non-regulatory. The species, stressors, and voluntary conservation actions identified in the Plan complement, but do not replace, existing work programs and priorities by state agencies and partners.